

# CAMEX3 Polarimetric Scanning Radiometer

## Level 2.3a Data Format Description

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The following table describes the meaning of the various data planes within any PSR CAMEX3 level 2.3a data file. Indices into a 3-D PSR data matrix are scan, sample (within a scan), and data type (explained below). All brightness temperatures are calibrated and in units of Kelvins.

Other variables present in each of the PSR CAMEX3 level 2.3a files are:

ssn	Serial number of maneuver (see CAMEX3 data flight catalog)
firstday	Julian day on which the flight began
scanhead	Type of PSR scanhead (e.g., PSRA for CAMEX3)
description	Text string indicating PSR maneuver ID
sceneL23a	See below

Data Plane	Description
sceneL23a(:,:,1)	10.7v Tb
sceneL23a(:,:,2)	10.7h Tb
sceneL23a(:,:,3)	18.7v Tb
sceneL23a(:,:,4)	18.7h Tb
sceneL23a(:,:,5)	21.5v Tb
sceneL23a(:,:,6)	21.5h Tb
sceneL23a(:,:,7)	37.0v Tb
sceneL23a(:,:,8)	37.0h Tb
sceneL23a(:,:,9)	89.0v Tb
sceneL23a(:,:,10)	89.0h Tb
sceneL23a(:,:,11)	High data rate pitch (deg)
sceneL23a(:,:,12)	High data rate roll (deg)
sceneL23a(:,:,13)	GPS latitude (ddddd)
sceneL23a(:,:,14)	GPS longitude (ddddd)
sceneL23a(:,:,15)	Wind direction aloft (deg, wrt true north)
sceneL23a(:,:,16)	True heading (deg, wrt true north)
sceneL23a(:,:,17)	Pressure altitude (feet)
sceneL23a(:,:,18)	Radar altitude (feet)
sceneL23a(:,:,19)	GPS altitude (feet)
sceneL23a(:,:,20)	Dew point (deg C)

<b>Data Plane</b>	<b>Description</b>
sceneL23a(:,:,21)	Static air temperature (deg C)
sceneL23a(:,:,22)	Pressure (mb)
sceneL23a(:,:,23)	Relative humidity (%) wrt ice
sceneL23a(:,:,24)	Relative humidity (%) wrt water
sceneL23a(:,:,25)	Solar azimuth (deg, wrt ground)
sceneL23a(:,:,26)	Solar elevation (deg, wrt to ground)
sceneL23a(:,:,27)	Solar zenith (deg, wrt ground)
sceneL23a(:,:,28)	Time (sec, from midnight UTC of the first day of the flight)
sceneL23a(:,:,29)	Beam azimuth angle (deg, wrt true north)
sceneL23a(:,:,30)	Beam elevation angle (deg, wrt nadir)
sceneL23a(:,:,31)	Polarization angle (deg)
sceneL23a(:,:,32)	Surface spot latitude (deg)
sceneL23a(:,:,33)	Surface spot longitude (deg)